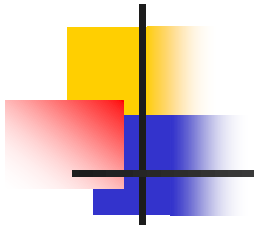

Water Quality Standards Academy

Use Attainability Analyses

Module Outline

- Designated Uses – Review
- What is a UAA?
- When is a UAA required/not required?
- When is a use "attainable" vs. "not attainable"?
- How complex do UAAs need to be?
- Example Case Studies

Designated Uses: Review

- CWA section 101(a)(2) states that "wherever **attainable**" water quality should provide for the protection and propagation of fish, shellfish and wildlife, and recreation in and on the water.
- Rebuttable presumption: Uses specified in section 101(a)(2) are presumed **attainable** unless a state demonstrates otherwise through a UAA.
- States and tribes have more flexibility when designating non 101(a)(2) uses ("…consider the use and value for public water supplies…agricultural, industrial, and other purposes, and…navigation")

Designated Uses: Review (2)

- If a designated use is not attainable, states/tribes may refine or remove the use, provided that specific circumstances are met and the appropriate analysis is conducted.
  - Existing uses may never be removed! They are always considered "attainable."

What is a UAA?

- A UAA is a "structured scientific assessment of the factors affecting the attainment of the use, which may include the physical, chemical, biological, and economic factors as described in 40 CFR 131.10(g)."

- UAAs involve determining the feasibility of attaining the use in the future.

- UAAs may be conducted by any individual or entity.

When is a UAA Required?

- UAAs must be conducted when:

1. Designating uses that do not include uses specified in 101(a)(2).
2. Revising designated uses to remove a use(s) specified in 101(a)(2).
3. Adopting sub-categories a 101(a)(2) uses which require less stringent criteria.

When is a UAA Not Required?

- UAAs do not need to be conducted when:

1. Designating uses which include the uses specified in section 101(a)(2) of the Act.
2. Establishing a sub-category structure.
3. Removing non 101(a)(2) uses (i.e., public water supply use, agricultural use, industrial use, etc.).

What is the Purpose(s) of a UAA?

- Meet the "fishable/swimmable where attainable" goals of the Act
  - Identify existing uses
  - Identify reasons attainment is "not feasible"
  - Identify highest attainable use
  - Consider downstream uses
- Establish a defensible rationale and record of decision when adopting a new or revised water quality standard for a water body.

When is a Use "Attainable"?

- At a minimum, a use is attainable IF:
  - It is an existing use, OR
  - It can be attained with:
    1. Imposition of technology-based controls, and
    2. Cost-effective and reasonable best management practices for nonpoint source control

When is a Use Not "Attainable"?

- A use is NOT attainable if:
  - Attaining the designated use is not feasible due to any one of the factors identified at 131.10(g).
    - "States may remove a designated use which is *not* an existing use…or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because…."

Factor 1

- *"Naturally occurring pollutant concentrations prevent the attainment of the use."*

Factor 2

- *"Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met."*

Factor 3

- *"Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place."*

Factor 4

- *"Dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in attainment of the use."*

Factor 5

- *"Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses."*

Factor 6

- *"Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact."*

How complex do UAAs need to be?

- Complexity of a UAA can depend on site-specific conditions:
  - Amount of data available
  - Size of the resource
  - Value of the resource to the community
  - Degree of change from the current designation
  - Degree of change from the uses specified in section 101(a)(2) of the Act

Aquatic Life UAA Case Study: Valley Creek, Alabama

- In 2001, Alabama proposed an upgrade of the Upper Valley Creek from agricultural & industrial use to a limited warmwater fishery use.
  - Water body could not meet the more protective "fish and wildlife" use on a year-round basis, due to high degree of urbanization.
  - Because the limited warmwater fishery use did not fully meet the uses specified in section 101(a)(2) of the Act, a UAA was necessary.
- In UAA, state provided information on physical, chemical, and biological conditions of the creek, including water quality sampling data, discharge monitoring reports, and water quality modeling results.

Aquatic Life UAA Case Study: Valley Creek, Alabama (cont'd)

- Conclusion: Attainment of the "fish and wildlife" use is precluded by the following factors:
  - Factor 3 (human caused conditions): Leaking sewer lines, domestic animals and wildlife populations, leaking septic tanks, sewer overflows, etc.
  - Factor 5 (physical conditions unrelated to water quality): high water table.
- EPA approved the revision to Alabama's water quality standards.

Recreation UAA Case Study: Los Angeles Channels

- The Los Angeles Region has many rivers and streams that have been straightened and/or concrete-lined to move large quantities of stormwater from urban areas to the ocean.
  - Waters cannot support the uses specified in section 101(a)(2) of the Act ("fishable/swimmable"), particularly during & after rain events when swimming is unsafe and bacteria levels exceed criteria.
  - LA Region opted to suspend recreational uses during and immediately following periods of high flow; therefore, a UAA was required.

Recreation UAA Case Study: Los Angeles Channels (cont'd)

- Conclusion: Attainment of the recreational use is precluded during and after periods of high flow based on the following factors:
  - Factor 2: Flow and velocity prevent the attainment of the use.
  - Factor 4: Hydrologic modifications (concrete lined channels) preclude attainment of the use.
- EPA approved the revision to California's water quality standards.

High Flow Conditions in an Los Angeles Channel

Take Home Messages

- There is nothing wrong with revising or removing a designated use after conducting a credible UAA. A UAA may bring more or less protective criteria.
- UAAs can be simple or complex, depending on the site specific situation.
- States and tribes should engage early and often with EPA when developing a UAA.

"If it's not 101(a), you need a UAA!"

Questions?

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Review Question #1

- True or False. A UAA is required when revising a warm water aquatic life use with a dissolved oxygen criterion of 6 mg/l to a modified warm water aquatic life use with a dissolved oxygen concentration of 4 mg/l?

Review Question #1

- Answer:
  - True. 40 CFR 131.10 (j) requires a UAA when lowering the level of protection for a water body or adopting a less stringent criterion.

Review Question #2

- Who may conduct a Use Attainability Analysis?
  - a. EPA
  - b. State
  - c. Authorized Tribe
  - d. Municipality

Review Question #2

- Answer:

  b, c, d. A State, authorized Tribe, municipality, or contractor may all conduct a UAA, but it is the State who is responsible for the determination that a use is or is not attainable.

Review Question #3

- True or False. A State or authorized Indian Tribe is required to conduct a Use Attainability Analysis when designating uses that include the uses specified in section 101(a)(2) of the CWA.

Review Question #3

- Answer:
  - False. 40 CFR 131.10(j) requires a State or Indian Tribe to conduct a Use Attainability Analysis only if:
    - the State or Indian Tribe designates or has designated uses that do not include the uses specified in section 101(a)(2) of the Act; or
    - the State or Indian Tribe wishes to remove a designated use that is specified in section 101(a)(2) of the Act; or
    - the State or Indian Tribe adopts a use specified in section 101(a)(2) of the Act that require less stringent criteria.

Review Question #4

- True or False. A State or Indian Tribe is encouraged to consult with EPA before a Use Attainability Analysis is initiated.

Review Question #4

- Answer:
  - *True. EPA and the State or Indian Tribe should agree on the data to be collected and how the analyses are to be conducted and the bases on which the information is evaluated to ensure that analyses are technically valid.*

Review Question #5

- True or False. The regulations provide detailed guidelines that a State or authorized Indian Tribe must follow when conducting a Use Attainability Analysis.

Review Question #5

- Answer:
  - False. The regulations allow a significant degree of latitude so that States or Indian Tribes can meet their specific goals in specific cases.

Review Question #6

- True or False. EPA recommends an inclusive open UAA process.

Review Question #6

- Answer:
  - True. Involving State, local and Federal entities and representative interest groups in the beginning and throughout the process is sound public administration. It may also save wasted effort and give a better chance of getting approval.

Review Question #7

- True or False. Evaluating existing available data is not useful in an analysis.

Review Question #7

- Answer:
  - False. Evaluating available data is an important step in conducting a Use Attainability Analysis.